



# School District No. 74 (Gold Trail) 2023 PSO Climate Change Accountability Report

May 31, 2024



## Land Acknowledgement

Gold Trail recognizes and is respectful that it lies on the traditional territory of the Nlaka'pamux, St'át'i mc and Secwépemc people.

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# Declaration Statement

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This PSO Climate Change Accountability Report for the period January 1, 2023, to December 31, 2023, summarizes School District No. 74's greenhouse gas (GHG) emissions profile, total offsets to reach net-zero emissions, actions undertaken in 2023 to minimize GHG emissions and plans to continue reducing emissions in 2024 and beyond.

By June 30, 2024, the 2023 Climate Change Accountability Report will be posted on SD 74's website at [www.SD74.ca](http://www.SD74.ca)

# Executive Summary

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## Gold Trail School District's Commitment to Energy Management and Carbon

### Reduction

The Gold Trail School District (SD 74) has eight schools in the beautiful interior of British Columbia. There are three K–12 schools; one rural one-room school; one secondary school; and three elementary schools.

SD 74 is committed to a carbon-neutral future. The organization aims to reduce its carbon footprint and improve its sustainability performance by participating in sustainability programs and ensuring environmentally responsible practices. As part of the district's Strategic Plan for 2022-2026, SD 74 aims to improve the condition and performance of district facilities and infrastructure.

### 2023 Greenhouse Gas Emissions and Offsets

The district's emissions come from three categories mobile sources such as district maintenance vehicles and buses, stationary sources including the natural gas and electricity used to operate schools and district buildings, and the paper consumed at all district facilities. In 2023, mobile energy use accounted for 51.75 percent of SD 74's total annual emissions, followed by stationary sources (48.11 percent) and paper sources (0.14 percent). SD 74's total greenhouse gas emissions for 2023 were 865 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This equates to a decrease in emissions of 16.18 % compared to 2015 and 4.1 % compared to 2022.

Each year the district has to pay the province an offset value of \$25 per tonne for all eligible emissions (biogenic and school bus emissions are omitted). For the 2023 reporting year, the SD 74's offset retirement costs equal \$12,525.

### Emissions Reductions Actions

As part of SD 74's commitment to reducing its energy consumption and associated emissions, measures are prioritized and selected based on feasibility, resource availability and potential impact. As a result, most projects completed in 2023 and planned for 2024 focus on reducing stationary energy use. This includes various electrical and mechanical upgrades and reduction of fossil fuel use.

### Climate Risk Management

Increasingly, SD 74 schools feel the impact of climate events from flooding, wildfires and extreme temperatures. Wildfires and associated smoke have particularly affected staff, faculty, and students and road conditions are an ongoing concern that SD 74 regularly monitors. The district plans to continue refining and formalizing its existing processes and strategies related to climate adaptation to improve climate resilience in the future.

# Overview

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## About SD 74

The Gold Trail School District has 8 schools in the beautiful British Columbia interior. Gold Trail is a unique school district as it is a geographically vast school district. The school district lies in the traditional territory of the Nlaka'pamux, St'at'imc, and Secwepmec people. Within the boundaries are five municipalities and nineteen Indigenous communities. As each community is distinct so is each school in the district. The eight schools in the district represent the culture that reflects the community, local Indigenous culture and children and families they serve.

The funding for available projects in SD 74 is much less than that of larger districts. All the projects listed below are funded by the Ministry, with a small portion coming from the district. None of the funding comes from the Ministry's Major Capital Project funding stream.

## SD 74's Commitment to Energy Management and Carbon Reduction

SD 74 is committed to reducing its carbon footprint and improving sustainability through environmentally responsible practices. Fossil fuel consumption is always top of mind, and the district aims to minimize it without compromising the comfort of the schools they oversee.



# Greenhouse Gas Emissions Overview

## Emissions Trends

Figure 1 illustrates SD 74’s total annual GHG emissions trend from 2015 – 2024 in comparison to annual heating degree days (HDDs). As the graph shows, energy consumption increased alongside HDDs from 2015 to 2017. While HDDs remained higher than 2015 levels, energy conservation measures in 2018 and 2019 helped to reduce total energy consumption and associated greenhouse gas emissions. In early 2020 the COVID-19 pandemic struck, reducing onsite activity, and associated stationary, mobile, and paper GHG emissions. Most onsite activities resumed in September 2022 bringing with them an increase in energy consumption and emissions. However, emissions have started falling from 2022 and 2023 indicating that the district is on the right track.

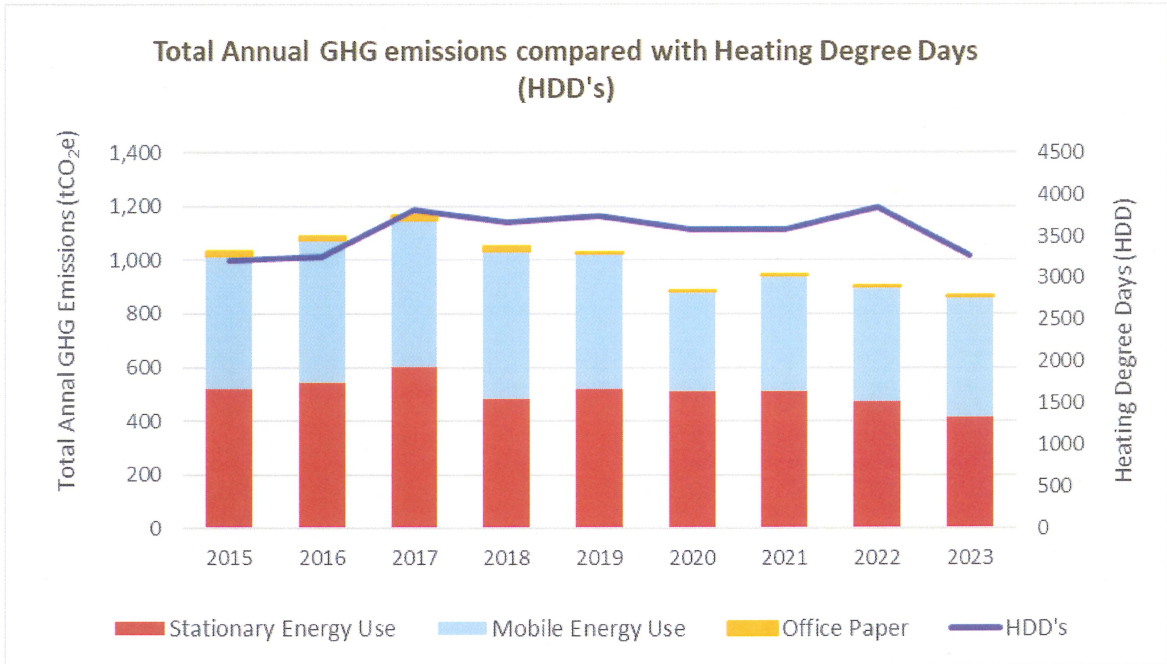


Figure 1. SD 74’s Total Annual GHG Emissions Compared with Heating Degree Days from 2015-2023

Figure 2 illustrates this story from the perspective of annual carbon offsets. While offsets increased in 2022, the overall trend line continues to decrease.

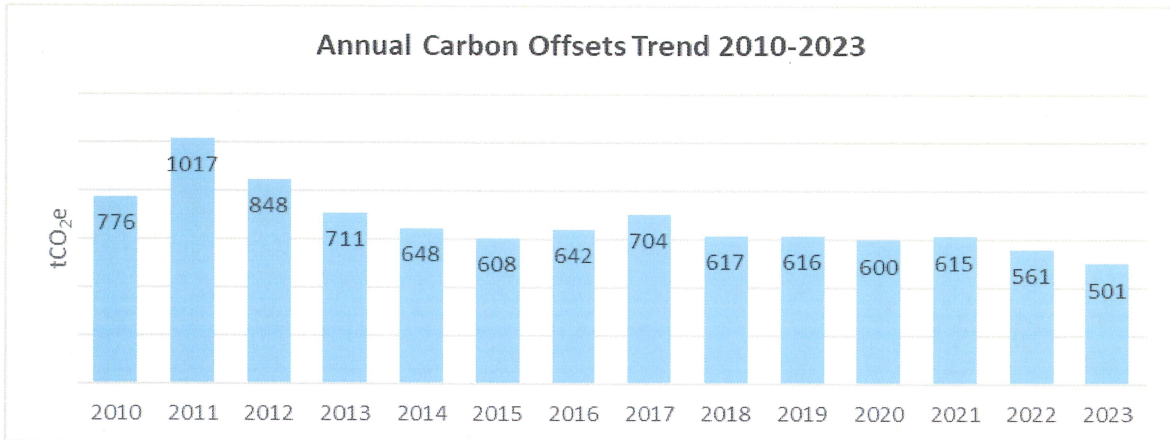


Figure 2. SD 74's Annual Carbon Offsets Trend from 2010-2023

## 2023 Emissions

As Figure 1 describes, SD 74's 2023 total GHG emissions decreased by 16.18 percent compared to 2015 levels and 4.1 percent compared to 2022 levels.

## GHG Emissions by Source

### Mobile Sources



Mobile sources accounted for 447 tCO<sub>2</sub>e or approximately half (51.75 percent) of SD 74's total 6865 tCO<sub>2</sub>e in 2023. SD 74 currently has a 100 percent gasoline and diesel-powered fleet, with 17 buses, 31 white fleets for maintenance and 4 pieces of non-road equipment.

### Stationary Sources



The second greatest source of emissions, stationary sources accounted for 416 tCO<sub>2</sub>e or approximately 48.11 percent of SD 74's total emissions in 2023. Emissions in this category are related to the use of natural gas for building heating, ventilation, and kitchen appliances, and electricity for building cooling, fans, lighting, elevators, plug loads and servers.

### Paper



Paper consumption accounted for 1.19 tCO<sub>2</sub>e or approximately 0.14 percent of SD 74's total emissions in 2023. This represents the smallest source of SD 74's total emissions.



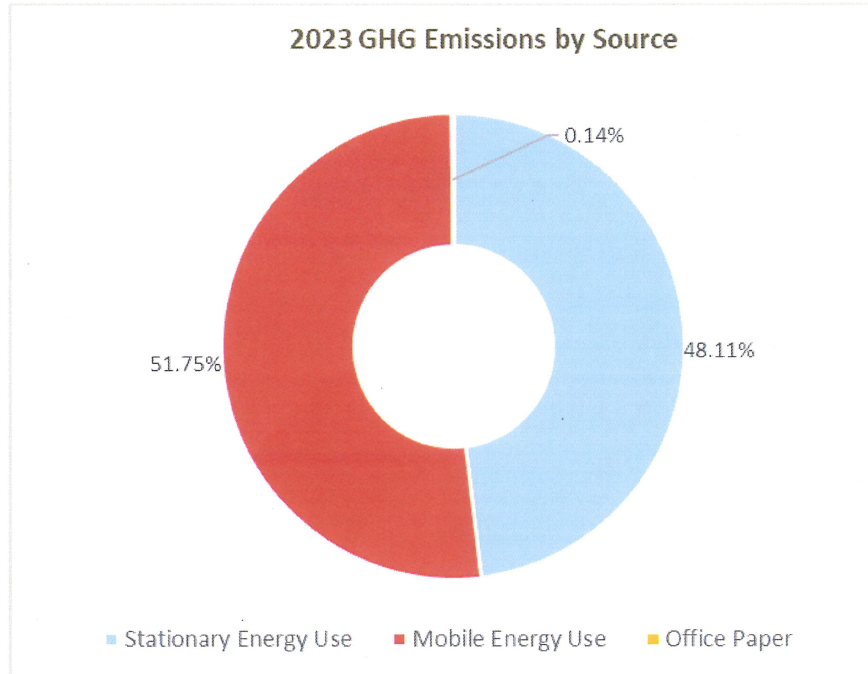
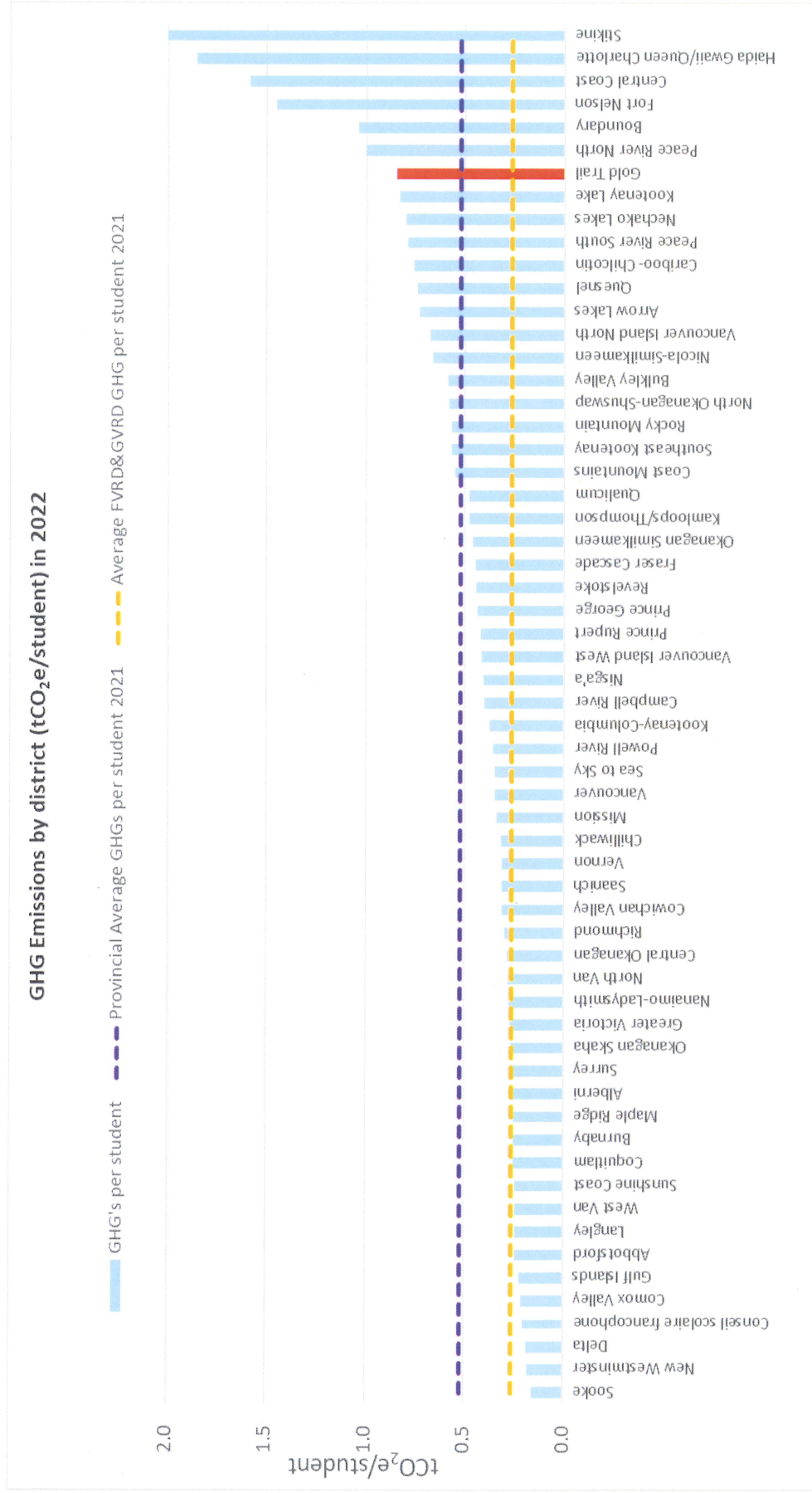


Figure 3. Breakdown of SD 74's 2023 GHG Emissions by Source

### How Do We Compare?

As of 2022, the Gold Trail School District was one of the ten highest emitters in the province in terms of GHG emissions per student (Figure 4). Its GHG emissions were 38% above the provincial average. Between 2010 –2022, the District’s weather-normalized emissions fell by 34%(Figure 5).



Data Sources: This graph was generated using data from CleanBC's 2022 Carbon Neutral Government Year in Review Summary and BC Schools - Student Enrolment and FTE by Grade Report

### Percentage change in weather normalized emissions 2010 - 2022

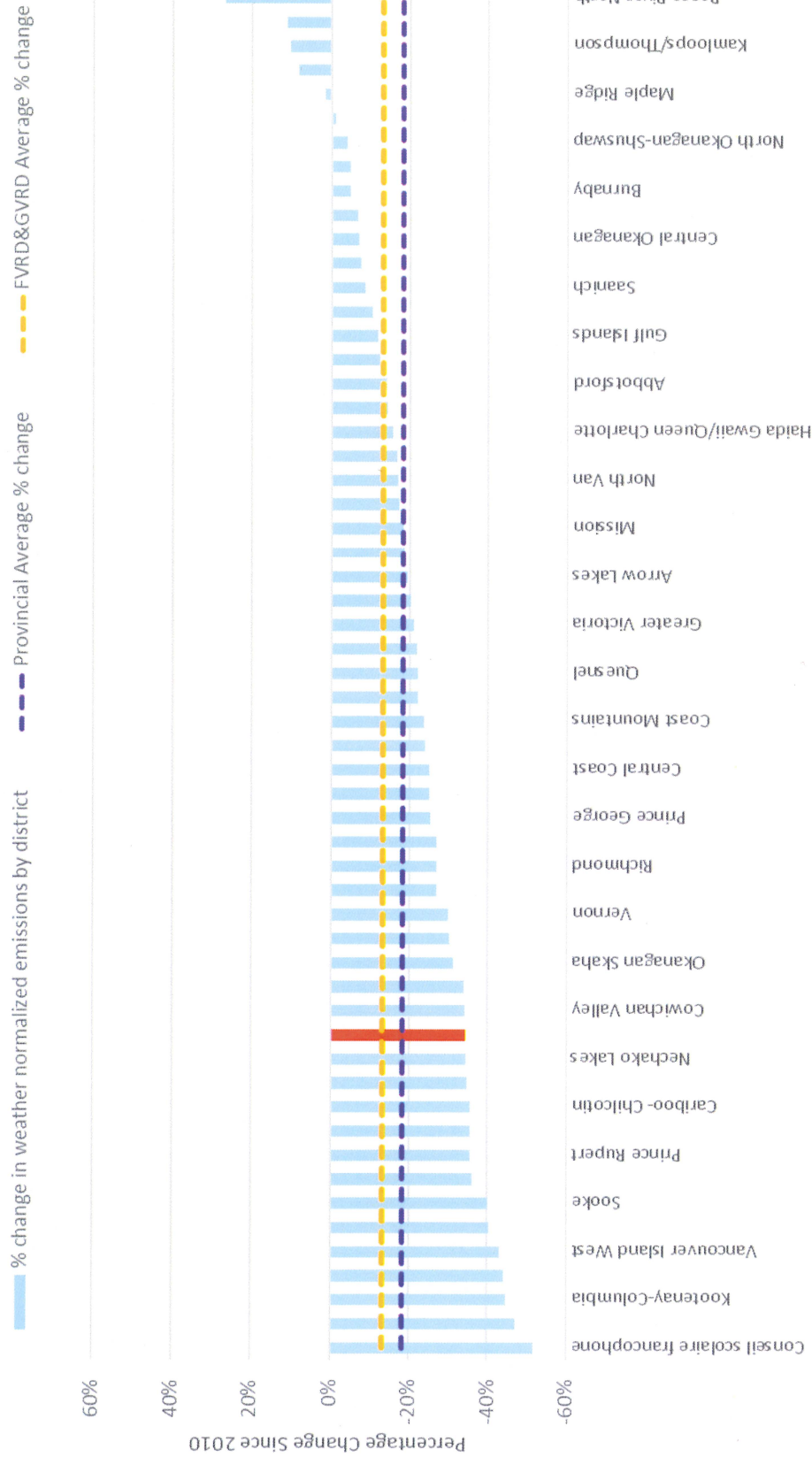



Figure 5. 2022 GHG percentage change in weather normalized GHG emissions per student


Data Sources: This graph was generated using data from CleanBC's 2022 Carbon Neutral Government Year in Review: Summary, and The Government of Canada's historical weather database, [https://climate.weather.gc.ca/historical\\_data/search\\_historic\\_data\\_e.html](https://climate.weather.gc.ca/historical_data/search_historic_data_e.html), accessed May 8, 2024.

## Summary of 2023 Greenhouse Gas Emission Reduction Actions

As part of SD 74's commitment to reducing its energy consumption and associated emissions, measures are prioritized and selected based on feasibility, resource availability and impacts achieved.


The schools in SD 74 are located in remote areas, which makes operations difficult. The district cannot control energy usage when winter temperatures drop below -25 to -35 degrees. In those circumstances, the schools use more fuel whether it be fossil fuel or electricity. Summers in this region have been consistently hot, with temperatures often reaching the high 30s and low 40s in recent years. That creates an extra electrical consumption load as cooling becomes a necessity. As a result, most projects in 2023 focused on reducing stationary energy use. These projects are described in the tables below.


 <b>Stationary Sources</b>
<b>Building – Kumsheen K-12 in Lytton HVAC Upgrade</b>
Kumsheen K-12 in Lytton underwent a major upgrade which included the following changes; <ul style="list-style-type: none"><li>• Classroom unit ventilators w/heat pump, electric heat back up, heat recovery system</li><li>• Elimination of fossil fuel heat except for two units which will be completed in fall/winter 2024/25</li><li>• New roofing was added with additional insulation</li><li>• Installation of solar voltaic (RFP going out over the next month)</li><li>• Lighting upgrade throughout which will be completed Summer/Fall of 2024 moving from 24-watt T-8 fluorescent to 10-watt LED</li><li>• The electrical upgrade fulfills the new demand</li></ul>

 <b>Paper Consumption</b>
<b>Change in material</b>
<ul style="list-style-type: none"><li>• In 2023 the district switched from using wood fibre paper to sugarcane paper.</li></ul>

## Summary of Future Greenhouse Gas Emission Reduction Actions

Projects planned for 2024 and beyond build on the work, learning and success of projects to date. These projects are described in the tables below.

 <b>Stationary Sources</b>
<b>Electrical</b>
<ul style="list-style-type: none"> <li>• The district is planning to complete a lighting upgrade at Kumsheen ShchEma-meet School in Lytton this Fall.</li> <li>• The district is currently doing a lighting survey incentivized by BC Hydro and carried out by a consultant. The lighting upgrades will be planned once the lighting study is complete. If the study recommends an upgrade, then the lighting will be upgraded.</li> </ul>
<b>Mechanical</b>
<ul style="list-style-type: none"> <li>• There is an ongoing HVAC upgrade at an elementary school in Lillooet with a proposed completion in the Spring/Summer of 2025. That site will become another all-electric building as we do away with propane, another fossil fuel.</li> <li>• Work is underway right now at Cayoosh Elementary in Lillooet with an electrical upgrade and mechanical upgrade to replace fossil fuel boilers with electric boilers. Each classroom will also have a heat pump and cooling unit ventilators to help minimize the higher temperatures during the summer.</li> <li>• A mechanical study on two of our sites (the remaining older systems) will likely lead to the project renewal or serious upgrades.</li> </ul>
<b>Strategic Energy Management</b>
<p>With the help of PUMA when Demand Charges and Power Factor issues are identified in monthly reports the district responds right away (time pending) to correct these issues. The district monitors excessive consumption and works to find out why that is happening.</p>

 <b>Paper Consumption</b>
<b>Change in material</b>
<ul style="list-style-type: none"> <li>• In 2024 the district plans to continue to use sugarcane paper.</li> </ul>

## 2023 GHG Emissions and Offset Summary Table

By the Carbon Neutral Government Regulation, SD 74 recorded activities generating direct and indirect greenhouse gas emissions. In 2023, SD 74 realized direct and indirect greenhouse gas emissions measured in tonnes per carbon dioxide equivalent (tCO<sub>2</sub>e) in the categories of stationary fuel combustion, mobile fuel combustion and office paper.

SD 74 2023 GHG Emissions and Offsets	
<b>GHG Emissions created in Calendar Year 2023</b>	
Total BioCO <sub>2</sub>	16.4
Total Emissions (tCO <sub>2</sub> e)	881
Total Offsets (tCO <sub>2</sub> e)	501
<b>Adjustments to Offset Required GHG Emissions Reported in Prior Years</b>	
Total Offsets Adjustment (tCO <sub>2</sub> e)	0
<b>Grand Total Offsets for the 2023 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e) to be Retired for 2023 Reporting Year	501
Offset Investment (\$25 per tCO <sub>2</sub> e)	\$12,525

## Retirement of Offsets

According to the Climate Change Accountability Act and Carbon Neutral Government Regulation, SD 74 must ensure the offset obligation reported for the 2023 calendar year, along with any adjustments for previous years, is retired. SD 74 hereby agrees that in exchange for the Ministry of Environment and Climate Change Strategy (the Ministry) ensuring that these offsets are retired on SD 74's behalf, SD 74 will pay, within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

# Climate Risk Management

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Increasingly, SD 74 has felt the impact of climate events from flooding, wildfires and extreme cold temperatures. The mountainous terrain is prone to fires and landslides, and it makes it difficult for buses to access the area. Wildfires and associated smoke have particularly affected school staff, faculty and students. Some schools had to be closed for flooding and there was property damage.

The district conducts daily assessments of road conditions, and weather warnings to determine the operational feasibility for the schools. There is a daily log, climate patterns are tracked and a response plan is developed for each emergency.

In 2024, SD 74 plans to continue mitigating risks related to extreme weather events such as flooding, wildfire and smoke. The district will refine and formalize the existing processes and strategies related to climate adaptation. The district ensures that support is made available to indigenous families in case of extreme weather events and that there is ongoing collaboration and communication from the school district.

The district does not have access to a lot of funding and relies on different grants for various initiatives.

# Success Story

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The district defines success as the ability to advance the above-discussed projects and secure funding to confidently plan and execute them. The district would like to highlight the Kumsheen school upgrade as a success story including the fact that once the last two rooftop units have been upgraded to electric heat pumps SD 74's GHG emissions should be reduced by approximately 60 tonnes annually!

**Executive Sign-off**

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Signature

May 30, 2023  
Date

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**Chuck Morris**  
Name (please print)

Director of Operations, S.D. No. 74 (Gold Trail)  
Title

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